

SOME NEW SPECIES OF MACROSIPHUM FROM
BRITISH COLUMBIA (HOMOPTERA, APHIDIDÆ)

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The following species of *Macrosiphum* are described from collections made in British Columbia during the summers of 1923-25 inclusive. All measurements are in millimeters and whenever possible are an average of a number of specimens. Length of body is measured from the vertex to the tip of cauda. The width given is that of the widest part of the abdomen. Owing to the large area covered and the great distance between various collecting points, it was impossible to take a complete series in every case. However, these descriptions will, it is hoped, serve as a basis for further study of some interesting species from a comparatively new territory and aid in their identification by workers in these districts.

1. *Macrosiphum audeni* Macdougall, n. sp.

Fig. I

This species occurs in dense colonies on the upper sides of the leaves of *Nymphaea polysepalum*, clustering toward the petiole. The specimens from which the descriptions were made were collected by Mr. K. F. Auden in the summer of 1924 at Merritt, British Columbia, after whom the species is named. It was taken also by Mr. G. Spencer near Victoria, British Columbia, in 1925, and by the author the same summer at Lakelse Lake in the northern part of the province. It is thought to be comparatively rare as many plants have been worked over in these and other localities which were all quite uninfested. Its distribution, however, as indicated by the above localities in which it was taken, is fairly general for the province.

Apterous viviparous female

General appearance: Color pale green, head and upper portion of abdomen slightly darker; antennæ light except segment VI and apex of V, which are dusky; coxæ and femora pale; tarsi and tip of tibia dusky; cauda pale; cornicles pale, except tips which are dusky; eyes dark red; body long and fairly slender; cornicles not reaching to tips of cauda, reticulated at tip where dusky, distinctly wider at base;

cauda long, irregularly ensiform; 2-4 sensoria on ant. seg. III. Beak fairly short, not reaching below second pair of coxæ. Antennæ much longer than body.

Measurements: Body—length 3.5, width 1.4; ant. segs.—III .8, IV .7, V .5, VI .19+1.2; corn.—.9; cauda—.4; hind tarsi—.19.

Alate viviparous female

General appearance: Color as above: antennæ dusky except first two segments and extreme base of third; eyes dark red; legs pale except distal tips of tibia and femora and all of tarsi, which are dusky; basal half of cornicles pale, rest dusky; cauda clear. Body long and fairly slender, except when distended with embryos; where dusky cornicles are distinctly reticulated, long, slender; cauda ensiform, fairly hairy; basal two-thirds of ant. seg. III with row of 12-18 sensoria. Antennæ slightly longer than body.

Measurements: Body—length 3.5, width 1.6; ant. segs.—III .75, IV .72, V .65, VI .2-1.2; corn.—.8; caud—.3; hind tarsi—.17; fore wing—length 4.2, width 1.45; hind wing—length 2.02, width .69.

All collections were made as recounted above on the following dates: Merritt, July 25; Victoria, British Columbia, August 8; Lakelse Lake, July 28.

Type slides are deposited in the National Collection, Ottawa. Paratypes in the United States National Collection, Washington, and in the author's collection.

This species is closely related to *Macrosiphum aquilegia* Theo.

2. *Macrosiphum bisensoriatum* Macdougall, n. sp.

Fig. II

Found in abundance on the under side of leaves of *Ribes lacustre* during the summer months. No alternate host is known; migrants appear at frequent intervals during the summer. This species can readily be distinguished from *Myzus ribis* Linn. by the larger size and the fact that when disturbed they are inclined to fall from the leaf.

Apterous viviparous female

General appearance: Color dark green, head slightly lighter than the rest of the body; antennæ pale except I and II, which are concolorous with body, distal quarter of V, and all of VI, which are dusky; flange of cornicle dusky, rest clear; cauda abruptly ensiform, clear; beak reaching almost to third pair of coxæ; last segment of

leg shading to brown; tips of tibia and all of tarsi dark brown, rest pale; head, cauda, ant. seg. III, and tibia prominently hairy. Two small sensoria on proximal half of ant. seg. III. Tip of cornicle distinctly reticulated, rest imbricated. Body slender, graceful; antennæ much longer than body; cornicles reaching to tip of cauda.

Measurements: Body—length 3.38, width 1.7; ant. segs.—III 9.5, IV .8, V .65, VI 16+1.15; cornicles—1.1; cauda—.42; hind tarsi—1.5.

Alate viviparous female

General appearance: Thorax very dark, rest as above; insect noticeably smaller than above. Coloring of antennal segments as follows: I and II, concolorous with body, rest of antennæ dusky; on dusky portion of seg. III is a row of 9 sensoria; near tip of V, one large one is found, and the usual number occur at base of spur of VI. Eyes red; beak quite long, clear, except last segment which is uniformly dusky; coxæ and basal two-thirds of femora pale, shading to the light brown of the rest of the femora; tibia light brown except tip, which is dark; tarsi dark brown; cornicles pale at base, shading to dusky flange, slightly constricted near tip; this part imbricated; cauda clear; wing veins distinct, dark brown; stigma rather pale. Antennæ much longer than body.

Measurements: Body—length 2.8, width 1.3; antennal segments—III .86, IV .7, V .6, VI .17-.9; cornicles—.8; cauda—.32; hind tarsi—1.5; fore wing—length 3.7, width 1.3; hind wing—length 2, width .6.

This species differs from *Macrosiphum lactucæ* Pass in having fewer sensoria in both forms and minor differences in color and size. It was collected at Boundary Bay, British Columbia, at intervals, through July and August, 1924.

Type slides are in the National Museum, Ottawa. Paratypes in the National Museum, Washington, and in the author's collection.

3. *Macrosiphum fuscicornis* Macdougall, n. sp.

Fig. III

Found in colonies with *Aphis ænotheræ* *Æst.* on stems and leaf buds of *Epilobium angustifolium*, the dark green color of this form contrasting with the purple of the smaller one. It has been taken in different parts of the province during the summer. Alatae are comparatively rare, only having been found in June and the latter part of August.

Apterous viviparous female

General appearance: Dark olive-green body; antennæ brown throughout, darkening somewhat in VI, much longer than body; eyes red; legs uniformly dark except base of femora, which is pale; cornicles brown except at base, reaching beyond the tip of cauda, broader at base and slightly constricted near tip; cauda long, irregularly ensiform, light brown.

Measurements: Body—length 3.18, width 1.6; ant. segs.—III 1.03, IV .94, V .83, VI .2+1.12; cornicles 1.4; cauda .5; hind tarsi .18.

Alate viviparous female

General appearance: Color approximately as above; thorax slightly darker than other parts of the body; antennæ and cornicles strikingly long; eyes dark red; first two antennal segments dusky, III dusky except extreme base which is pale, IV getting paler, V and VI quite light. A more or less regular row of sensoria along edge of III. Coxæ and basal half of femora pale, rest of legs dusky; cornicles dusky, slightly paler immediately below flange; cauda pale; wing veins normal, stigma pale brown.

Measurements: Body—length 2.6, width .89; ant. segs.—III .81, IV .8, V .72, VI 15-.8; cornicles—.9; cauda—.32; hind tarsi—1.7; fore wing—length 3.7, width 1.38.

This species has been collected at Jerico Beach near Vancouver, British Columbia, on August 24, 1924, and Merritt, British Columbia, June 29, 1924. It was observed in other parts of the province during the same summer. It is most closely related to *Macrosiphum fragariellum* Theo., but the cornicles are tapering and there is no indication of a swelling.

Type slides in Canadian National Collection, Ottawa. Paratype slides in United States National Museum, Washington, and in the author's collection.

4. *Macrosiphum nigromaculosum* Macdougall, n. sp.

Fig. IV

This very colorful Aphis is found, so far as the writer knows, only in the semi-arid valleys of the lower Cascades. It is clustered in masses along the stems of *Rosa nutkana*, seldom spreading to the buds or leaves. Although collected from June to August, no adult or larval migrants were taken.

Apterous viviparous female

General appearance: Body bright red, fading to pink; cervicum

black, abdomen marked with three more or less regular black bands; appendages black, body broadly ovate with cornicles projecting outward at right angles giving the insect a most peculiar appearance. Specimens in balsam appear as follows: head and abdomen dark with lighter thorax, antennal segments pale except ends of V and VI, which are dusky. Eyes very dark red; base of femora pale, rest of leg light brown, except tips of tibia and femora and all seven tarsi, which are dark; cornicles uniformly black, very broad at base, tapering gradually to the usual-sized flanged tip, reticulated throughout; cauda irregularly ensiform, shading from pale at base to dusky at tip; beak light brown except tip which is very dark, reaching to second pair of coxæ; antennæ, tibia and cauda prominently hairy. No sensoria on antennal segment III, but a very large one near tip of V and the usual group at the base of spur of VI, scarcely as long as the body. In cleared specimens the black pigment spots seem to be scattered rather unevenly in those parts of the body which appear banded.

Measurements: Body—length 3.7, width 1.9; ant. segs.—III .9, IV .51, V .51, VI .15-.74; cornicles—.7; cauda—.38; hind tarsi—.2.

Collections of this species were made in Bootahnie Valley, June 28, 1924, and in Merritt on July 10 of the same year. During these months and August, no alatae were observed in either locality. Readily distinguished from other species occurring on *Rosa* by color, shape and habits.

Type slides deposited in the Canadian National Collection, Ottawa. Paratypes in United States National Museum, Washington, and in author's collection.

5. *Macrosiphum pyrifoliae* Macdougall, n. sp.

Fig. V

This species is fairly common in the vicinity of Merritt, British Columbia, on the leaves of *Pyrus occidentalis* during the summer. Although the sexes have not been found it is thought to spend the complete season on this host. Migrants occur regularly, a few of them being always present in a colony.

Apterous viviparous female

General appearance: Dusky brown in color, head slightly darker than the rest of the body; antennal segments V, VI and tips of III, IV, dark brown, I and II concolorous with body; rest clear; eyes red; legs pale except tarsi and tips of tibiae, which are dusky; cornicles long, reaching just below tip of cauda, and pale, except distal third, which is dusky; cauda clear; body long, of average width;

embryos show distinctly; dusky portion of cornicles distinctly reticulated. Row of 14-17 sensoria on basal three-quarters of antennal segment III. Cauda typically ensiform. Beak reaching to third pair of coxæ; last segment dusky.

Measurements: Body—length 3.4, width 1.4; ant. segs.—III .9, IV .75, V .7, VI .2-.9; cornicles 1.1; cauda—14; hind tarsi—1.6.

Alate viviparous female

General appearance: Much darker than the apterous form; body narrower and antennæ longer; body dark green-brown; cauda, basal half of femora, proximal part of antennal joint III, all pale; cornicles dusky, uniformly colored; wider than in apteræ; only the tip distinctly reticulated, barely reaching to tip of cauda; legs and antennæ covered with fairly long, capitate hairs. Antennal joint III with 18-24 irregularly placed sensoria, more or less clustered in center.

Measurements: Body—length 3.1, width 1.01; ant. segs.—III 1.1, IV 8.5, V 7.4, VI .19-1.2; cornicles—1.1; cauda—.43; hind tarsi—.19; fore wing—length 4.55, width 1.6; hind wing—length 2.8, width .86.

Collected May 27, 1924, in Merritt, British Columbia, by Mr. K. F. Auden, and in Tulameen on June 15 of the same year by the author. It was observed at other times in this locality. Nearest to *Macrosiphum ulmariae* Schrank, although it resembles this species only remotely.

Type slides in Canadian National Collection, Ottawa. Paratypes in the United States National Museum, Washington.

6. *Macrosiphum subviride* Macdougall, n. sp.

Fig. VI

This species is found on the stems and leaves of *Aster alpinus* which grows on the eastern slopes of the Cascade Mountains and in the Rockies. As it does not colonize, it is very difficult to detect on the pubescent surface of the host. Alatæ are found continuously throughout the summer months. Early in August, however, the insects entirely disappear; the winter host is unknown. Transfer experiments were made with *Aster occidentalis*, but were found to be completely unsuccessful.

Apterous viviparous female

General appearance: Color delicate green, approximating that of the hairs of the host; antennal segments I and II pale, III and IV pale with dusky tips, V shading to dusky at tip, VI dusky; legs pale except tip of tibia and all of tarsi, which are black; cornicle slightly

constricted a short way from tip, this narrow part dusky and reticulated; cauda clear, ensiform; eyes red. Antennal segment III with an irregular row of 8-9 sensoria.

Measurements: Body—length 3.1, width 1.05; ant. segs.—III .89, IV .68, V .59, VI .19-1.28; cornicles—.8; cauda—.38; hind tarsi—.12.

Alate viviparous female

General appearance: Same general color and shape as above; thoracic region slightly greener than the rest of the body; antennæ very dark except segments I, II, and base of III, which are pale and form a striking contrast; coxæ and proximal portion of femora pale, rest light brown, except tarsi and distal sixth of tibia which are dark as antennæ. Wing veins regular, dark, radius slightly clouded, stigma dusky. Proximal half of cornicle light, rest dark, reticulated, slightly constricted near tip; cauda clear, broadly ensiform, hairs fairly noticeable. 20-25 sensoria on ant. seg. III.

Measurements: Body—length 2.6, width .8; ant. segs.—III .91; IV .88, V .8, VI .2-1.45; cornicles—.82; cauda—.31; hind tarsi—1.1; fore wing—length 4.65, width 1.7; hind wing—length 2.4, width .9.

First collected in Bootahnie Valley, June 27, 1925, and then at intervals until August 2 of the same year. This species differs in minor points from *M. circumflexa* Buck, *M. campanulæ* Kalt. and *M. solanifoliæ* Ash.

Type slides in Canadian National Collection, Ottawa. Paratypes in United States National Museum, Washington, and in the author's collection.

EXPLANATION OF FIGURES

- Fig. I. *a*, cornicle of apteræ; *b*, segment III of antennæ of apteræ; *c*, cornicle of alata; *d*, antennal segment III of alata; *e*, fore wing; *f*, cauda of apteræ; *g*, cauda of alata.
- Fig. II. *a*, cornicle of apteræ; *b*, antennal segment III of apteræ; *c*, cornicle of alata; *d*, antennal segment III of alata; *e*, cauda of apteræ; *f*, cauda of alata; *g*, fore wing.
- Fig. III. *a*, cornicle of apteræ; *b*, antennal segment III of apteræ; *c*, cornicle of alata; *d*, antennal segment III of alata; *e*, cauda of apteræ; *f*, cauda of alata; *g*, fore wing.
- Fig. IV. *a*, cornicle of apteræ; *b*, cauda of apteræ.
- Fig. V. *a*, cornicle of apteræ; *b*, antennal segment III of apteræ; *c*, cornicle of alata; *d*, antennal segment III of alata; *e*, cauda of apteræ; *f*, cauda of alata; *g*, fore wing.
- Fig. VI. *a*, cornicle of apteræ; *b*, antennal segment III of apteræ; *c*, cornicle of alata; *d*, antennal segment III of alata; *e*, cauda of apteræ; *f*, cauda of alata; *g*, fore wing.

Fig. I.

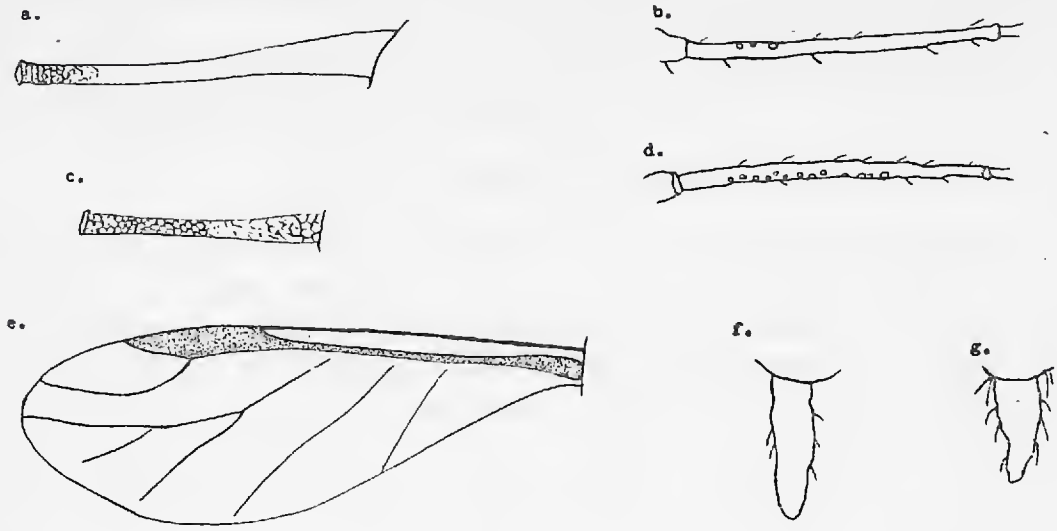


Fig. II.

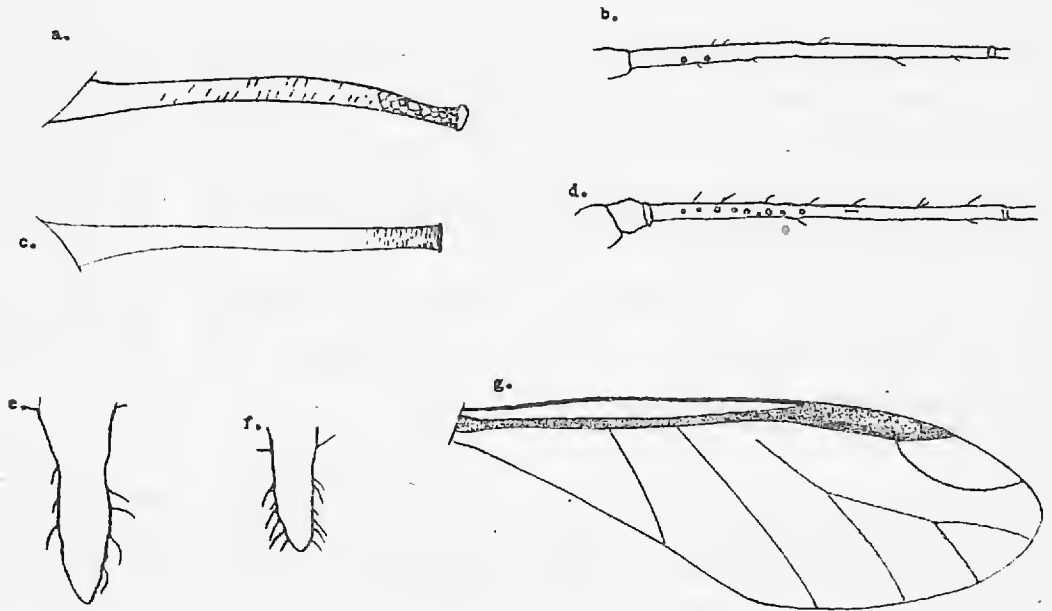


Fig. III.

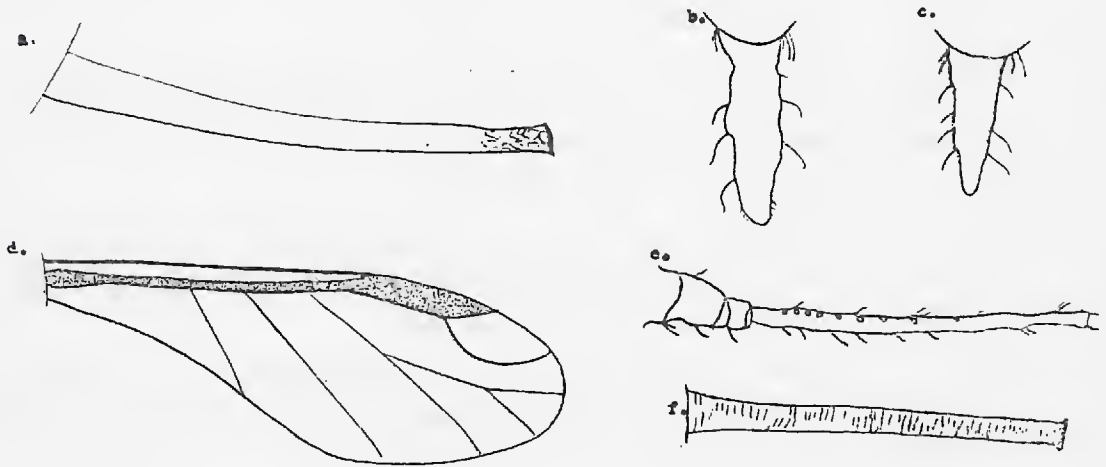


Fig. IV



Fig. V.

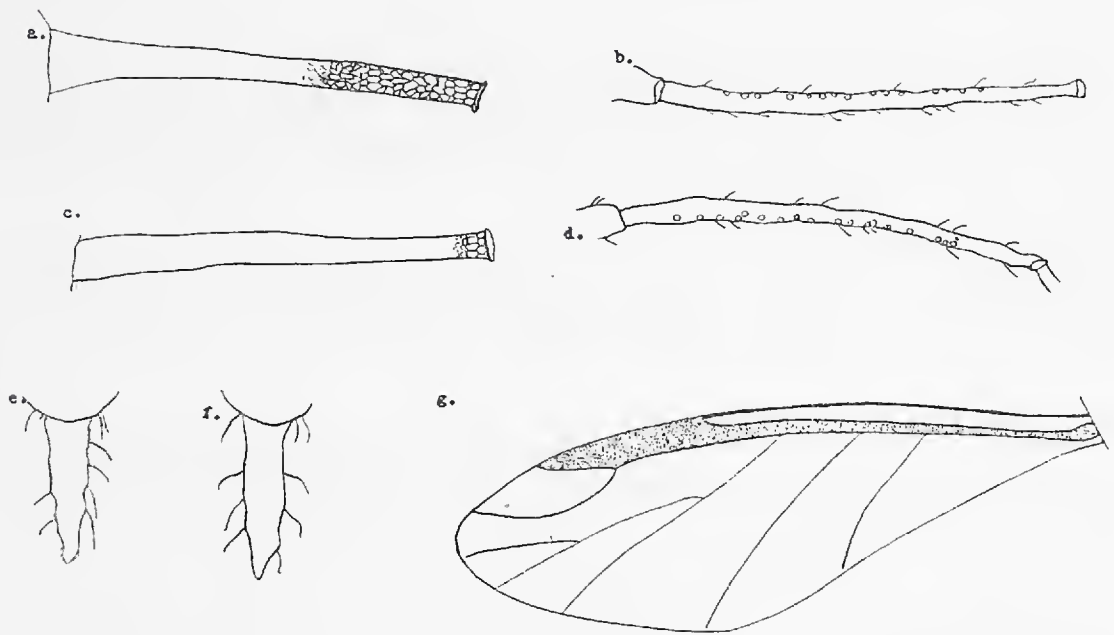


Fig. VI.

